



# LoRa\_Temperature&Humidity Sensor

## LTH5200 User Manual

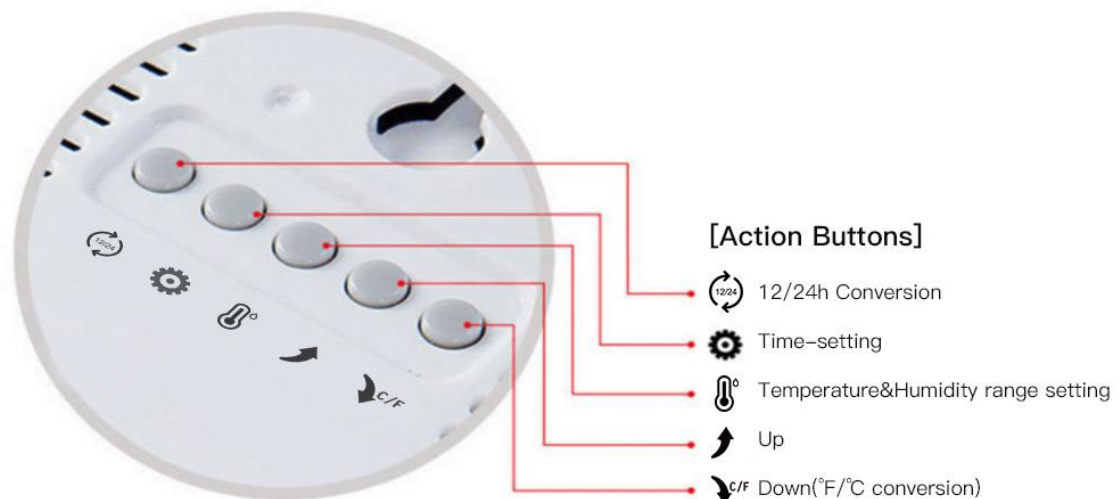
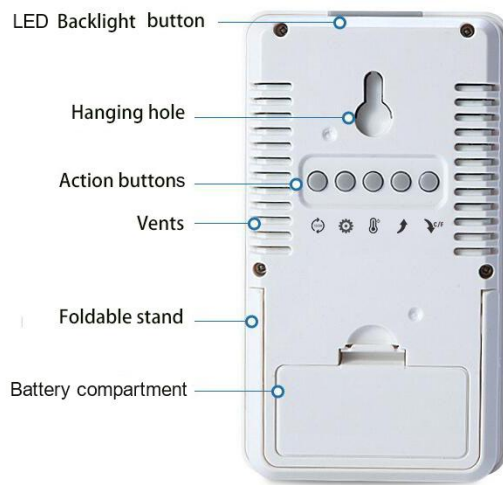
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ATENXA LIMITED

# 1. Description

LTH5200 series is a LoRa based temperature and humidity sensor ,designed to measure temperature and humidity of it's surroundings immediately. This product integrated with high sensitivity humidity sensor and temperature sensor, optimized for low power usage which will run years on one set of batteries. The LoRa wireless connection to the internet allows widespread deployments.



## 2. Specification

Parameters	Specifications
Modulation	LoRa Modulation Patented by Semtech
Frequency Band	433~510MHz/868~928MHz, Optional
Power Supply	2*AA 1.5V batteries
Battery life	More than 1 years (depend one data transmit frequency)
Operating Temperature	-10~+65°C (wide range temperature module optional)
Resolution	Temperature :0.1°C Humidity:1%RH
Operating Humidity	0%~99%RH (Non - Condensing)
Measurement Accuracy	Temperature: $\pm 0.3^{\circ}\text{C}$ , Humidity: $\pm 3\%RH$
Dimensions	130*75*22mm
LoRa Antenna	build in antenna.

## 3. Features

- **Multi-functions** :Support functions such as calendar , Temperature ,humidity , and night light .
- **LoRaWAN compatible**, communication range up to 3-5KM line-of-sight , 1~3KM in dense urban.
- **Long Battery Life** up to 1 year (depending on usage).
- **Automatic measurements** : The measurements are made at a configured frequency and automatically send to the LoRa network .
- **Real-time Alarm** : When one of the temperature sensors or humidity reaches a value outside the set range an alarm is send.
- **Cost-effective** : monitor large sites with fast and easy deployment.
- **Reduce financial loss**: ensure quality control for products and manage public health and sanitary risks.

## 4. Typical Application

- Indoor and outdoor environments such as home, offices, hotels, restaurants, schools , shopping malls, waiting rooms , hospitals, gardens ,greenhouses and animal husbandry.
- Cold-chain logistics, computer rooms, Workshops, laboratories and warehouses for the electronics, chemical and biomedical industries.



## 5. Operation Guide

### 5.1 Power on


Insert two AAA batteries into the battery compartment, make sure to observe the correct polarity when installing batteries in your device.



Low-Power Alert : The buzzer will bleep 4 times when power supply is insufficient. Users need to replace new battery.

### 5.2 Time format conversion



Short press  button to convert 12-hour time and 24-hour time

### 5.3 Time-setting






- Press  button 1 second to access time-setting mode , the “Hour” numbers on the digital


display start blinking. Press  or  C/F button repeatedly until the desired number value is shown.

long press will continuously add or subtract .

- Press  button again to set "minute" , "year" , "month" and "date" one by one .
- When "date" setting finished , Press  button to save your changes.

## 5.4 Temperature& humidity range setting

- Short press  button 1 second to access temperature and humidity range setting mode .the "Max humidity " numbers on the digital display start blinking, Press  or  C/F button repeatedly until the desired number value is shown, long press will continuously add or subtract .
- Press  button again to set "max temperature" , "min humidity" and "min temperature" one by one .
- When "min temperature" setting finished , press  button again to save your changes.

Press  button, Users can check Maximum and Minimum value of temperature & humidity .

When the temperature or humidity exceeds the maximum or minimum value , an alert is sent to the LoRa server via the LoRa module.



## 5.5 Temperature format conversion

Press  C/F button to convert Celsius and Fahrenheit.(°F/°C)

## 5.6 LED backlight

- Press the top button to switch on LED backlight and it will extinguish after 3 seconds when there is not operation .
- Press and hold the top button 3 second to set data uplink frequency.( uplink period range: 1~1500mins )

## 5.7 Reset

Press and hold  and  button 3 seconds to reset the device

## 5.8 Activation method

- **OTAA**( Over-The-Air Activation)
- **ABP**(Activation By Personalisation )

The buzzer will bleep 2 times when the device successfully connect to the network.

## 5.9 Operation Commands guide

Instruction	Cmd	Remark
Modify time	ff1007e20c01000000ff	2018/12/01/00/00/00
Modify data uplink frequency	FF 12 00 01 FF	00 01 represents minutes, range: 1~1500
Temperature& humidity range setting	FF 11 46 28 1E 0A FF	46/28/1E/0A/ corresponds to maximum temperature / minimum temperature / maximum humidity / minimum humidity. Temperature range: -20~100, humidity range: 0~100 The maximum value should be greater than the minimum value.

## 6. Package

Item	Package	QTY	Dimensions	G.W	Accessories
LTH5200	Giftbox	1 unit/box	12*5*3CM	150g	User Manual , warranty card